

# ORG CHART/SITE MAP MASHUP

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How to create a List-driven, Graphical Org Chart using jQuery, Web Services and the Google Charting API

# INTRODUCTION


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# BLOG – WHATSTHESHAREPOINT.COM

What's The (Share)Point?  
Another resource for MS SharePoint information.

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## I'm speaking at SharePoint Saturday – Twin Cities on Oct 29, 2011

By David Petersen, September 20, 2011 10:59 am [Comments \(0\)](#)

I just found out I'll be presenting my Mashup presentation at **SharePoint Saturday – Twin Cities on October 29!** Come see me and hopefully I'll have some books with to sign!

Uncategorized | conference, Presentations, sharepoint saturday, Site Map Edit


## Org Chart/ Site Map Mashup: Wrapping it all up!

By David Petersen, August 30, 2011 11:57 am [Comments \(0\)](#)

I have received some positive feedback on this article series. Thank you! I thought I'd go ahead and create this post with links to each post in the series to make it easy to read the whole thing in order. I also want to thank [EndUserSharePoint.com](#) for picking up the series, making it available to many more people. As always, if there is a particular subject you would like to know more about, send me an email and I'll try to write something about it.


Here are all of the links!

1. Introduction




**Call Me**  
Click and Google will connect you for free.  
by Google

*Buy My Book!*

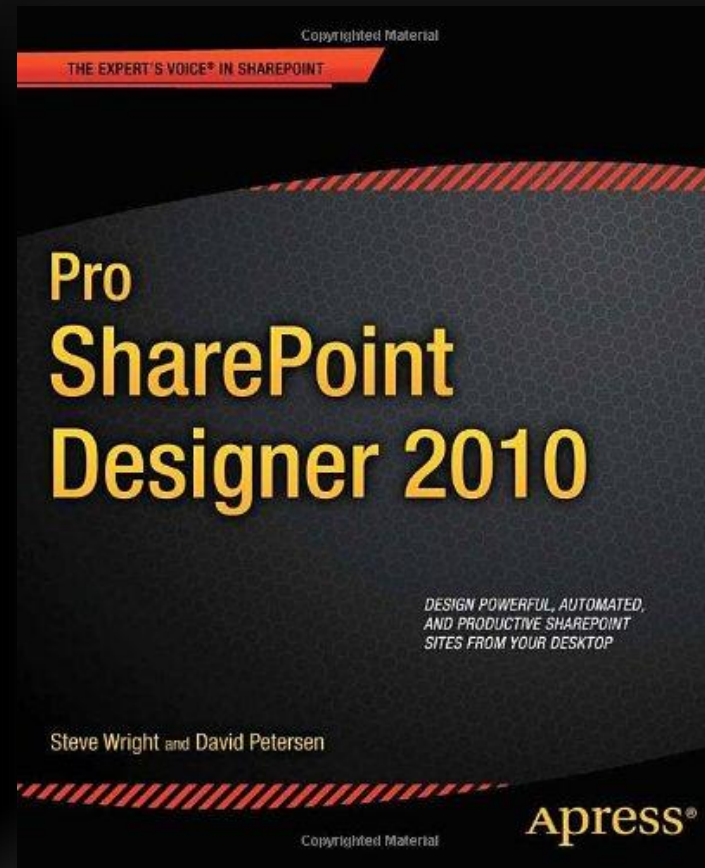


*Contact Me*



**David Petersen**, MCSD, MCTS

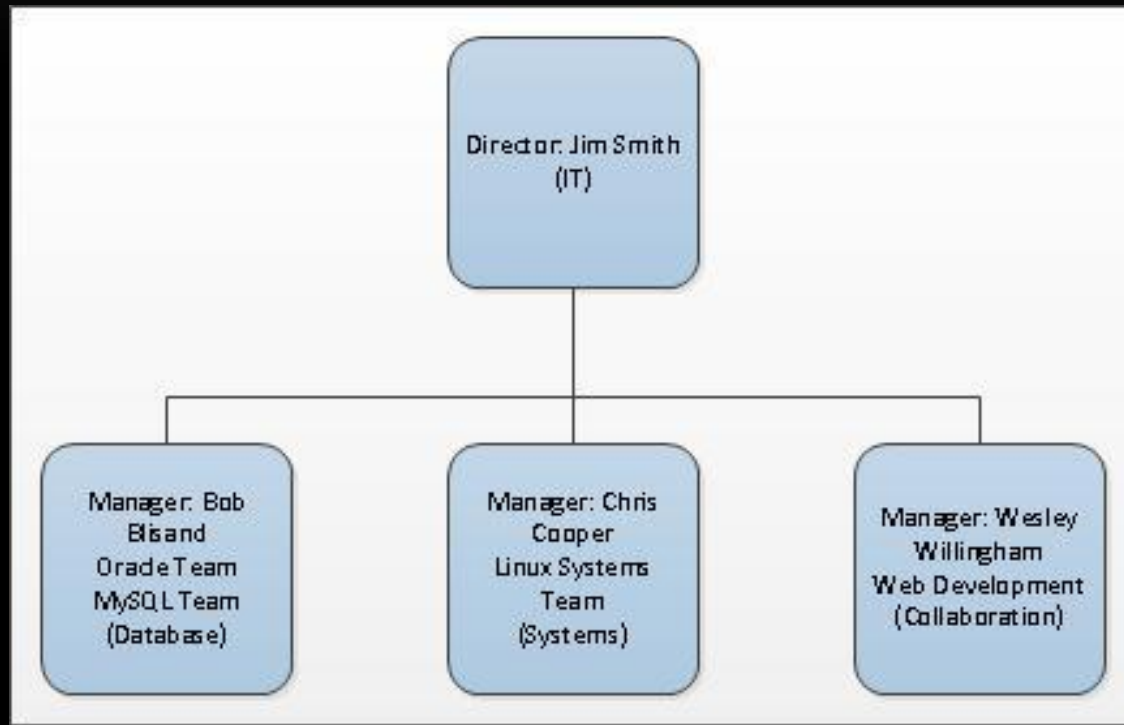
# PRO SHAREPOINT DESIGNER 2010



# THE PROBLEM

- Business user created an Org Chart as a JPG
  - Web programmer sliced it up and created HTML to display it on a SharePoint page
  - Lost the original graphic
  - Needed to make a change, asked for my help
  - Another JPG was not a good solution
  - Business user always had to have a programmer help update
-

# ORIGINAL



# THE SOLUTION

- SharePoint list-driven solution
  - Content Editor Web Part
  - Use jQuery to query the SP Web Services
    - SPServices jQuery library for SharePoint Web Services – Marc Anderson
    - <http://spservices.codeplex.com/>
  - Use Google OrgChart Visualization API
    - <http://code.google.com/apis/chart/interactive/docs/gallery/orgchart.html>
-

# SHARE POINT LISTS

- **Site Map**
    - Fields
      - Title – The name of each box.
      - Parent – Defines the parent-child relationship.
    - Provides the structure of the org chart.
  - **Site Map Content**
    - Fields
      - Content – of the box.
      - Url – Provided so that we can link to somewhere on the site.
      - Position – Defines what position in the box.
      - SiteMapNode – Lookup to the Title field in the Site Map list. (Relationship to first list)
-



# SITE MAP LIST

Field Name	Type	Notes
Title	Single Line of Text	
Parent	Lookup	This lookup field references the Title field in the same list.

## Content

Title	Parent
IT	
Database	IT
Systems	IT
Collaboration	IT

# SITE MAP CONTENT

Field Name	Type	Notes
Content	Single Line of Text	Rename Title field
Url	Single Line of Text	
Position	Number	Set to Zero decimal places, minimum number 1
SiteMapNode	Lookup	Lookup to the Site Map list and reference Title field

# CONTENT FOR SITE MAP CONTENT LIST

Content	Url	Position	SiteMapNode
Director: Jim Smith		1	IT
Manager: Bob Blisand		1	Database
Oracle Team	#	2	Database
MSSQL Team	#	3	Database
MySQL Team	#	4	Database
Manager: Chris Cooper		1	Systems
Microsoft Systems Team	#	2	Systems
Linux Team	#	3	Systems
Manager: Wesley Willingham		1	Collaboration
SharePoint Development	#	2	Collaboration
Web Development	#	3	Collaboration

# DEMO

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To the code...and beyond...

## Columns

---

A column stores information about each item in the list. The following columns are cu

Column (click to edit)	Type
<a href="#">Title</a>	Single line of text
<a href="#">Parent</a>	Lookup
<a href="#">Created By</a>	Person or Group
<a href="#">Modified By</a>	Person or Group

---

[Create column](#)

[Add from existing site columns](#)

[Column ordering](#)

[Indexed columns](#)

## Columns

A column stores information about each item in the list. The following columns are currently available in

Column (click to edit)	Type	Required
<a href="#">Content</a>	Single line of text	✓
<a href="#">Url</a>	Single line of text	
<a href="#">Position</a>	Number	
<a href="#">SiteMapNode</a>	Lookup	✓
<a href="#">Created By</a>	Person or Group	
<a href="#">Modified By</a>	Person or Group	

[Create column](#)

[Add from existing site columns](#)

[Column ordering](#)

[Indexed columns](#)

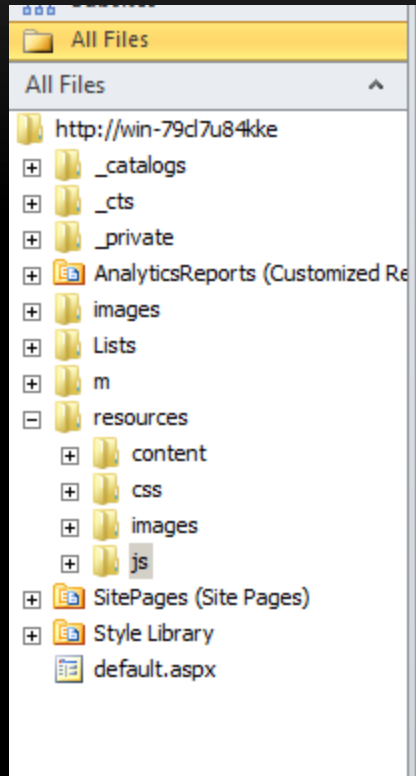
*Search this site...*

<input type="checkbox"/>	@ Title	Parent
	IT	
	Database	IT
	Systems	IT
	Collaboration	IT

 [Add new item](#)

@	Content	Url	Position	SiteMapNode
	Director: Jim Smith		1	IT
	Manager: Bob Blisand		1	Database
	Oracle Team	#	2	Database
	MSSQL Team	#	3	Database
	MySQL Team	#	4	Database
	Manager: Chris Cooper		1	Systems
	Microsoft Systems Team	#	2	Systems
	Linux Team	#	3	Systems
	Manager: Wesley Willingham		1	Collaboration
	SharePoint Development	#	2	Collaboration
	Web Development	#	3	Collaboration





## Folder Structure

- resources
  - content
    - sitemap.js
  - css
  - images
    - background-image
  - js
    - jquery
    - spservices

Home - Default Collection - Windows Internet Explorer

http://win-79d7u84kx/default.aspx?P

Home - Central Administration Home - Default Collection

System Account

Site Actions | Browse | Page | Page Tools | Web Part Tools | Options

Stop Editing | Edit Properties | Versions | Permissions | Delete Page | E-mail a Link | Alert Me | Approve | Reject | Workflows | Edit Mobile Page | Make Homepage | Title Bar Properties

Libraries

- Site Pages
- Lists
  - Site Map
  - Site Map Content
- Discussions

Recycle Bin | All Site Content

Left

Right

Add a Web Part

SiteMap

SiteMap

Content Editor

Content Link

To link to a text file, type a URL.

resources/content/SiteMap.js

Test Link

Appearance

Title

SiteMap

Height

Should the Web Part have a fixed height?

Yes  Pixels

No. Adjust height to fit zone.

Width

Should the Web Part have a fixed width?

Yes  Pixels

No. Adjust width to fit zone.

Chrome State

Minimized

Normal

Chrome Type

None

Layout

Advanced

OK Cancel Apply

100%

SiteMap

Content Editor

#### Content Link

To link to a text file, type a URL.

resources/content/SiteMap.js

[Test Link](#)

#### Appearance

##### Title

SiteMap

##### Height

Should the Web Part have a fixed height?

Yes   Pixels

No. Adjust height to fit zone.

##### Width

Should the Web Part have a fixed width?

Yes   Pixels

No. Adjust width to fit zone.

##### Chrome State

Minimized

Normal

##### Chrome Type

None

```
Font Paragraph Preview Editing Proo
content SiteMap.js images All Files
Default Collection > All Files > resources > content > SiteMap.js
1 <!-- Load the jQuery and SPServices libraries.
2     Make sure you verify the path -->
3 <script language="javascript" type="text/javascript" src="resources/js/jquery-1.6.4.min.js"></script>
4 <script language="javascript" type="text/javascript" src="resources/js/jquery.SPServices-0.6.2.min.js"></script>
5
6 <!-- Load the Google Charting visualization library. -->
7 <script type="text/javascript" src="http://www.google.com/jsapi"></script>
8 <script type="text/javascript">google.load('visualization', '1', {packages:['orgchart']});</script>
9
10 <!-- Create a script area for our custom code. -->
11 <script type="text/javascript" language="javascript">
12 String.prototype.wrap = function(pre,post) {
13     return pre + this + post;
14 }
15 var out="";
16 var data;
17 $(document).ready(function(){
18
19     // this is where we will write our code
20
21 });
22
23 </script>
24
25 <!-- This is the container for the site map. -->
26 <div id="sitemap"></div>
```

```
//initialize variables
var curParent='0';
var testParent;
var curTitle='';
var curId='0';
var parentId;
var boxContent='';
// create a new DataTable object that we will pass to the Google API
var data = new google.visualization.DataTable();
// add the following columns to the DataTable to store the chart values.
data.addColumn('string','Name');
data.addColumn('string','Parent');
data.addColumn('string','Tooltip');
```

```
// SPSServices return the response data in the xData object. It contains
// the response in an XML document. We can then use jQuery to find each
// row of data in the XML file and act on it.
$(xData.responseXML).find('[nodeName="z:row"]').each(function(){
    // if this node does not have a parent, then we need to save it to the DataTable
    // differently than the nodes with parents.
    if($(this).attr('ows_Parent')==null)
    {
        curParent = $(this).attr('ows_ID');
        curTitle = $(this).attr('ows_Title');
        boxContent=curTitle;


        // note the first field in the DataTable. the v:curParent and the
        // f:boxContent are in the Name field. The v: represents the Value
        // while the f: represents the display field. It may look like we're
        // saving 4 values to a 3 field table but the first field has a
        // value and display name part to it.

        data.addRow([v:curParent, f:boxContent],curTitle);
    }
    else
    {
```

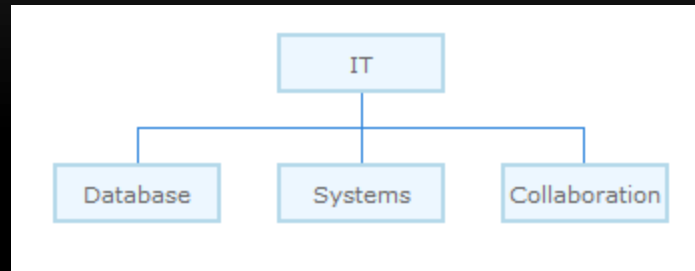
```
else
{
testParent = $(this).attr('ows_Parent');
curTitle = $(this).attr('ows_Title');
parentId = testParent.split(';#')[0];
curId = $(this).attr('ows_ID');
boxContent=curTitle;
if(parentId !=curParent)
    curParent=parentId ;
    data.addRow([v:curId, f:boxContent},curParent,curTitle]);
}
});

// now send it to the Google Visualization API and store the results in 'chart'
var chart = new google.visualization.OrgChart(document.getElementById('sitemap'));
// render the HTML of the chart.
chart.draw(data, {allowHtml:true});
```

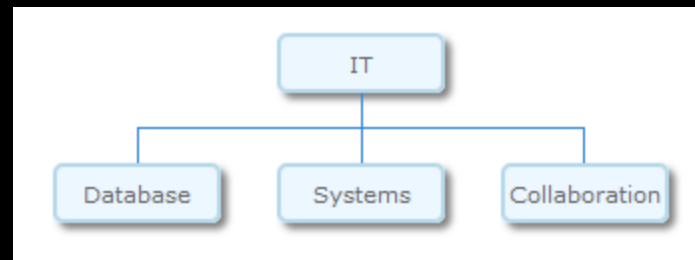
```
CAMLQuery: '<Query><OrderBy><FieldRef Name="
completefunc: function(xData,Status){
}
});
```







IE

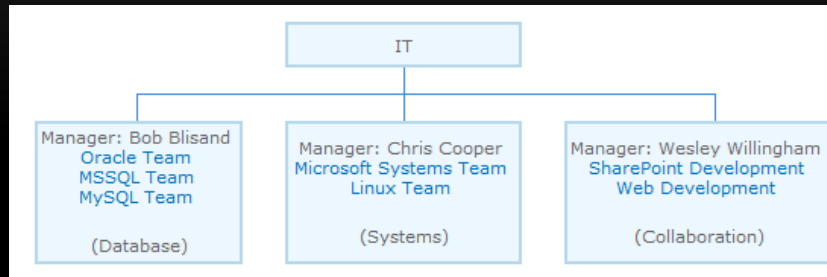


Firefox

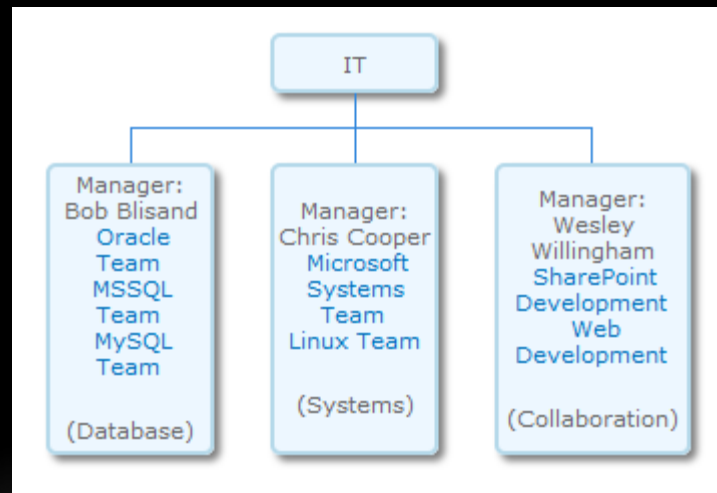
```

function GetContent(LookupValue)
{
    var out='';
    var content, url;
    // use SPServices to query the Site Map Content list for all nodes that match the
    // LookupValue.  Grab the Title, Url, Position and SiteMapNode fields.
    $().SPServices({
        operation: 'GetListItems',
        listName: 'Site Map Content',
        async: false,
        CAMLViewFields: '<ViewFields><FieldRef Name="Title" /><FieldRef Name="Url" /><FieldRef Name="Position" /><FieldRef Name="SiteMapNode" /></ViewFields>',
        CAMLQuery: '<Query><OrderBy><FieldRef Name="Position" /></OrderBy><Where><Eq><FieldRef Name="SiteMapNode" /><Value Type="Lookup">'+LookupValue+'</Value></Eq></Where></Query>',
        completefunc: function(xData,Status){
            // When the response is received from the server,
            // create our content string by iterating
            // through each row returned in the response.
            $(xData.responseXML).find('[nodeName="z:row"]').each(function(){
                url='';
                content='';
                // if our string has already been started, add a new row to the response.
                if(out.length>0)
                    out+='\n';
                content=$(this).attr('ows_Title');
                if($(this).attr('ows_Url')!=null)
                    content='<a href="'+ $(this).attr('ows_Url') + '" title="'+ content + '">' + content + '</a>';
                // add the content string to the output.
                out += content;
            });
            // one requirement I had was to put the Node name at the bottom of the box.
            // The easiest way to do this is to add an empty paragraph and then the Lookup Value.
            // This is specific to my requirement so you don't have to do this.
            out+='\n<p>&nbsp;</p>';
            out+= LookupValue.wrap('<p>(','</p>');
        }
    });
    return out;
}

```



IE



Firefox

o < div#WebP...s-WPBody < td < tr < tbody < table.s4-wpTopTable < orgchart-noderow-medium">

- + <tr class="google-visualization-orgchart-connrow-medium">
- + <tr class="google-visualization-orgchart-connrow-medium">
- <tr class="google-visualization-orgchart-noderow-medium">
  - + <td class="google-visualization-orgchart-node google-visualization-orgchart-node-medium" colspan="6" title="Database">
  - <td class="google-visualization-orgchart-

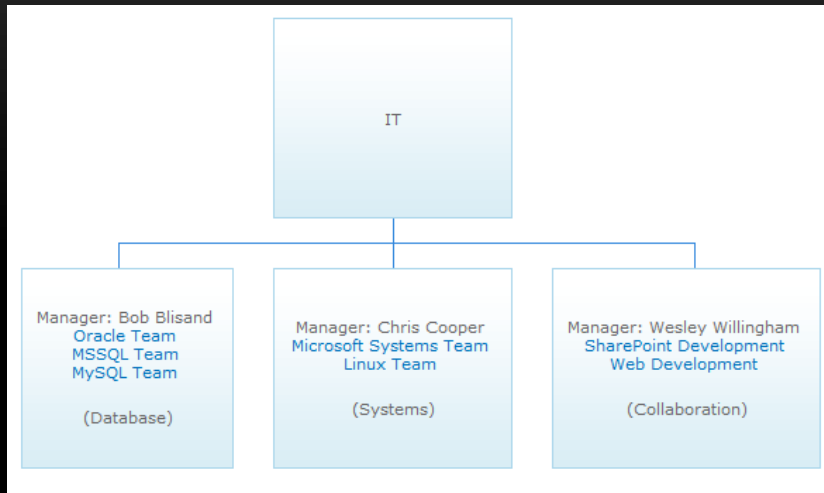
Style ▾ Computed Layout DOM

```
}
.google-visualization-orgchart-node {
  background-color: #EDF7FF;
  border: 2px solid #B5D9EA;
  border-radius: 5px 5px 5px 5px;
  box-shadow: 3px 3px 3px rgba(0, 0, 0, 0.5);
  cursor: default;
  font-family: arial, helvetica;
  text-align: center;
  vertical-align: middle;
}
.google-visualization-orgchart-table * {
  margin: 0;
  padding: 2px;
```

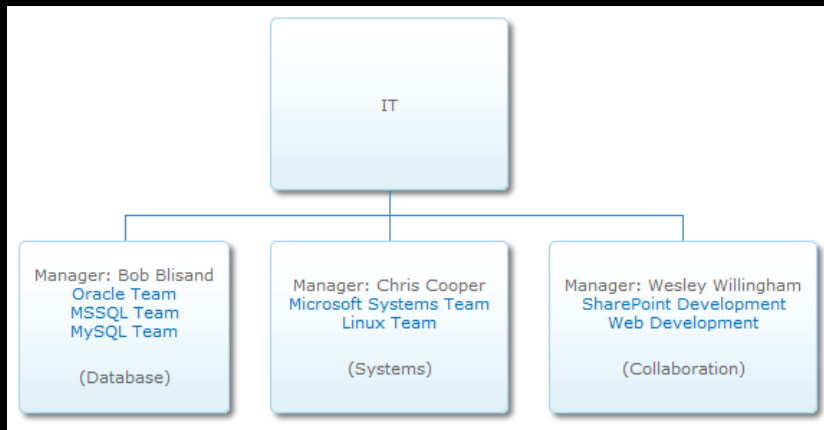


Use background image

```
<style type="text/css">
.google-visualization-orgchart-node
{
  Background-image:url(resources/images/background.gif);
  Background-repeat:repeat-x;
  Background-color:#d2eaf3 ;
  Border:1px solid #a8d5eb ;
  padding: 10px;
  height: 120px;
  white-space: nowrap;
}
</style>
```



IE



Firefox

# MORE INFORMATION

- 4 Part Series – Step by Step
    - <http://whatsthesharepoint.com>
    - Download sitemap.js
    - Download background graphic
  - CSS3 Reference: <http://www.css3.info>
  - Amazon Search for: Pro SharePoint Designer 2010
  - Google Chart Tools
    - [code.google.com/apis/chart/index.html](http://code.google.com/apis/chart/index.html)
  - @dipetersen
  - <http://www.linkedin.com/in/dpetersen>
-